STANDARD FORM NO. 64

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TO : The Files

DATE: 26 July 1961

FROM : [redacted] 25X1

SUBJECT: Comparison of the [redacted] Antenna Coupler with the Laboratory Developed Antenna Coupler 25X1

1. Identical loads were selected to test both tuners. Listed below are the efficiencies with the measured load impedances at the selected test frequencies.

2. Test Results:

Freq. (MC)	Measured Load Impedance	Efficiency (%) Collins Coupler	Laboratory Coupler
6	104 + j0	55.0	83.5
10	104 + j0	53.0	70.5
18	102 + j5	46.0	76.0
6	580 -j130	66.2	83.0
10	510 -j210	68.6	85.0
18	420 -j270	56.0	88.0
6	1000 -j244	62.8	87.0
10	920 -j273	64.2	83.5
18	900 -j280	51.2	62.5

3. Input Impedance: The input impedance of the [redacted] 25X1 coupler varied between 41 +j0 and 60 +j23 with a typical value of 52 +j5. The Laboratory coupler varied between 45 +j5 and 60 +j10 with a typical value of 47 +j7.

4. Conclusions: The Laboratory coupler provides better efficiency under the different load conditions. However, with the [redacted] tuner it is easier to achieve the correct null. 25X1

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